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NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED IN ANNEX I TO THE CONVENTION

GUIDELINES FOR THE PREPARATION OF NATIONAL COMMUNICATIONS

Guidelines for the preparation of national communications by Parties included in Annex I to the Convention: Part II

Addendum

STATUS OF THE CHAIRMAN'S DRAFT TEXT AT THE CLOSE OF THE TENTH SESSION

Note by the secretariat

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its tenth session, concluded that discussions on revisions to part II of the guidelines for the preparation of national communications by Parties included in Annex I to the Convention, should continue at its eleventh session. It requested the secretariat to prepare a document reflecting the status of discussions on the draft text of part II of the guidelines at the close of the tenth session (FCCC/SBSTA/1999/6, para. 27 (h)).

2. The annex to this note contains a draft text as it stood at the end of discussions held in the joint contact group convened at the tenth session of the SBSTA. It thus responds to the above mandate. The text incorporates the revisions proposed by Parties as of the close of the meeting of the joint contact group on 11 June 1999. The annex also contains proposals made by Parties and the co-Chairs to the joint contact group at the 10th session of the SBSTA.

3. Paragraphs 1-32 of the draft text were discussed by the joint contact group at the tenth session of the SBSTA. The remaining paragraphs, 33 - 60, were not discussed by the group. In

proposals submitted by Parties, deletions are indicated by ~~strikeout~~ and proposed additions by [brackets].

4. To reflect the state of discussions with respect to the mandatory and optional elements of the guidelines, the words *shall, should, could* and *mandatory* have been placed in [brackets], as the contact group proposed they be reviewed for consistency with the requirements of the Convention and previous decisions of the Conference of the Parties.

Annex I

TEXT REFLECTING THE STATUS OF DISCUSSIONS AT THE TENTH SESSION OF THE SBSTA ON DRAFT GUIDELINES FOR THE PREPARATION OF NATIONAL COMMUNICATIONS BY PARTIES INCLUDED IN ANNEX I TO THE CONVENTION:

Part II: National Report

Working Paper No. 4

I. INTRODUCTION

A. Objectives

1. The objectives of these guidelines for preparing the national communication are:

(a) To assist Annex I Parties in meeting their commitments under Articles 4 and 12 of the Convention;

(b) To promote the provision of consistent, transparent, comparable, accurate and complete information in order to enable a thorough review and assessment of the implementation of the Convention by the Parties, and to monitor the progress they are making towards meeting the goals of the Convention; and

(c) To ensure that the Conference of the Parties (COP) has sufficient information, in accordance with Article 4.2(d), to carry out its responsibilities to review the implementation of the Convention and the adequacy of the commitments in Article 4.2(a) and (b).

B. Definitions

2. In the context of these guidelines:

The joint contact group decided to return to the question of which [if any] terms need definition once it has completed consideration of the entire text and taking into account the definitions already included in part I of the guidelines.

Implemented policy or measure means .....

Transparency means .....

Consistency means .....

Comparability means .....

Completeness

Accuracy

(more terms to be specified)

The European Union (EU), in its submission to the group, suggested the following definitions:

"*Implemented policy or measure* means a policy or measure in respect of which one or more of the following applies: (a) national legislation is in force; (b) one or more voluntary agreements have been established; (c) financial resources have been allocated; (d) human resources have been mobilized.

Transparency means that the text of the national communication is intelligible in terms of national actions and circumstances. Full *transparency* means that the quantitative and qualitative results could be reconstructed by a second Party on the basis of the information provided. In practical terms the amount of information that a Party would have to provide in order to achieve full transparency would be very great. However a Party would normally be expected to have access to the necessary information to provide full *transparency* if needed in some areas for review purposes.

Consistency means that data, sectoral definitions, calculation methods and technical terms which are used in the national communication, or which occur both in the national communication and national inventories, have the same values, definitions, or significance wherever they occur, and that any associated time-series are calculated on the same basis throughout.

Comparability means that methodologies agreed by the Parties have been used, for example to estimate greenhouse gas inventories, and that other internationally agreed definitions and methodologies have been employed."

C. Coverage

3. In accordance with Articles 4.1(j) and 12.1(a) and (b), a communication [shall] describe the actions by Annex I Parties that significantly contribute to the implementation of their Convention obligations. In accordance with Article 12.3, Annex II Parties [shall] also report on finance and technology transfer measures to implement Article 4.3, 4.4 and 4.5.

4. In accordance with Articles 4 and 12, and consistent with part I of the reporting guidelines, a communication [shall] describe anthropogenic emissions by sources and removals by sinks of all greenhouse gases (GHGs) not controlled by the Montreal Protocol. At a minimum, this communication [shall] contain information on the following six greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulphur hexafluoride (SF_6). The communication [should] provide information on any other greenhouse gases whose 100-year global warming potential (GWP) values have been identified by the Intergovernmental Panel on Climate Change (IPCC) and adopted by the COP. The communication [should] also provide information on the following indirect greenhouse gases: carbon monoxide (CO), nitrogen oxides (NO_x) and

non-methane volatile organic compounds (NMVOCs). Parties are also encouraged to provide information on sulphur oxides (SO_x) in their national communications.

D. Structure

5. The information identified in these guidelines [shall] be communicated by a Party to the Conference of the Parties in a single document submitted in one of the official languages of the United Nations. The length of a communication may be decided by the submitting Party but every effort [should] be made to avoid over-lengthy communications, in order to reduce the paper burden and to facilitate the consideration process. Parties [shall] provide electronic version of the [mandatory] tables in the format required.

6. To facilitate transparency, comparability, and consistency of national communications, Parties [shall] structure this document following the outline in the annex. To ensure completeness, no [mandatory] element [shall] be excluded. If [mandatory] elements cannot be fully reported for any reason, Parties [shall] explain the omission or the reason for partial reporting in the section relating to that element.

7. Parties are encouraged to provide additional relevant background information, preferably in English, or another official language of the United Nations.

8. Annex I Parties are also encouraged to submit, where relevant, a translation of their communication into English.

II. EXECUTIVE SUMMARY

9. A communication [shall] include an executive summary that summarizes the [mandatory] information and data from the full document. In view of the limits on translation, the executive summary [shall] be of no more than 15 pages.

III. NATIONAL CIRCUMSTANCES

10. This section [should] provide the context for the information presented in the national communication about a Party's implementation of the Convention. It [should] assist the reader in understanding observed trends in greenhouse gas emissions, the choice of different policies and measures and future emission trends. Information [should] be provided for a sufficient time period to allow the reader to understand its relevance to information given elsewhere in the national communication. Parties may explain the link between their national circumstances and observed emission trends, their policies and measures and other aspects of information in the national communication, in the relevant sections.

11. Information [shall] be provided for each of the subject headings listed below. Parties may provide whatever information best describes their own national circumstances for each of the subject headings. However, to improve the comparability of information in national

communications, for each subject heading, relevant types of information and time periods are suggested. Where such information has been provided in earlier national communications, this can simply be noted in the latest national communication where this simplifies reporting.

[*The contact group discussed several options for the sub-sections (a) to (f) of paragraph 11, o based on the text of the existing guidelines, one based on the existing draft text below, and one based on the shortened version produced by Australia which is identified below.*

(a) Population profile: Total population, population density and dispersal. Total greenhouse gas emissions [per capita] (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6), measured on a CO_2 equivalent basis. (Provide data for 1990, or the relevant base year, to latest available year.);

(b) Geographic profile: Total land area in km^2, latitude of most southerly and northerly points, continent. Proportion of land devoted to agriculture, forest (indicating the proportion of managed to unmanaged), dwellings, etc. (Provide data for the most recent year available.);

(c) Climatic profile [and trends]: Parties [should] provide key climatic data, for example, average winter and summer temperature and precipitation in the region or regions of highest population density such as the capital. Average number of heating and/or cooling degr days [for the most recent averaging period agreed to by the World Meteorological Organizatio (WMO)] [(climate statistics [should] be used.)] (Statistics may be based on an average of rece years.);

(d) Government structure: A description of the government structure, including the number of underlying bodies at regional levels such as state, county or municipality level, and their role in determining policy and/or implementing policies and measures, in general; [(Information presented here [could] include regulation and responsibility for measurement of GHG emissions, if not included under subparagraph (i))]

(e) Economic profile: Gross domestic product (GDP) and [GDP per capita] expressed in local currency, in nominal and real terms. [GDP can be expressed, additionally, on purchasing power parity basis.] GDP by sector such as agriculture, industry, services. (Provide data for 1990, or the relevant base year, to the latest available year.) A description of major economic changes or shifts between sectors such as a significant decline or growth in manufacturing activity and the main reasons behind such changes. A description of state suppo to different economic activities such as energy production [, ~~and~~ transport, industry,] agriculture [forestry] and any significant changes over time to such support. (Statistics on subsidies may also be provided and may be based on own definitions or Organisation for Economic Co-operation and Development (OECD) definitions of producer subsidy equivalent, etc.) For different sectors additional information may be provided which may assist in explaining emission trends such as livestock numbers or numbers of landfills since 1990, or the relevant base year;

(f) Energy profile: Energy balance in terms of primary energy supply by fuel, in million tonnes of oil equivalent (Mtoe). Energy consumption by sector, for example, industry, households, transport, electricity generation, in Mtoe. Electricity generating capacity by source, for example oil, gas, hydro, renewables, coal, nuclear, in MW. Electricity generation by source, in TWh. Imports and exports of electricity in TWh. [Energy intensity measured as total primary energy supply per unit of GDP. Total primary energy supply per capita.] The real delivered price of energy and electricity to different consumer groups such as large, medium and small industrial consumers and households. (Provide data for 1990, or the relevant base year, to the most recent year available.) A description of the market structure and any major changes since 1990, or the relevant base year, such as market liberalization. This may also cover a description of the infrastructure such as degree of coverage of the national gas distribution network. Domestic energy reserves, including economically recoverable coal, oil and gas reserves, uranium and hydropower resources, and the economic potential for renewable energy. Opportunities for barriers to fuel switching for different sectors or groups of consumers;

(g) Transport: Fleet numbers of cars and heavy goods vehicles. Passenger and freight kilometres by rail, road, sea and air. (The statistics may make a distinction between passenger-kilometres travelled by public and private transportation.) Average number of passenger cars per hundred of population. (Provide data for 1990, or the relevant base year, to the most recent year available.) A description of the road and rail infrastructure [A description of state support to different forms of transportation and any significant trends];

(h) Housing stock: Dwelling numbers by type, for example, detached houses, flats. Average dwelling size. Occupancy rate. (Data for the most recent year available.) Commentary on age of housing stock and on extent of new housing being built, if significant;

(i) [Monitoring of greenhouse gas mitigation: A description of the way in which progress with policies and measures to mitigate greenhouse gas emissions is monitored and evaluated. Parties may include information about indicators which assist in this process. Such indicators may relate to aggregate statistics or detailed sectoral analysis.] *N.B. This element is also covered in the policies and measures section*;

(j) Other circumstances: Parties may wish to describe circumstances not covered by the above which explain emissions trends and/or the success or failure of particular policies and measures.]

[Proposal by Australia for subparagraphs 11 (a) to (l)

(a) Population profile – e.g. total population, growth rate, density and distribution - with trends since 1990; [and greenhouse gas emissions per capita];

(b) Geographic profile – e.g. area, latitude, land-use pattern, and ecosystems;

(c) Climate profile – e.g. temperature distributions, heating and cooling degree days, rainfall distributions, and variability and extreme events;

(d) Government structure;

(e) Economic profile – e.g. gross domestic product (GDP), GDP per capita (expressed in domestic currency and purchasing parities), GDP growth rates, GDP by sector, trade patterns – with trends since 1990; and greenhouse emissions per GDP;

(f) Energy profile – e.g. energy resources profile, energy supply by fuel (million tonnes oil equivalent), energy prices, energy market structures (oil, gas, coal, hydro, renewables, nuclear), energy policies (e.g. taxes, subsidies and market reform), energy consumption patterns and intensity by sector, and trade in energy commodities including electricity;

(g) Transport – e.g. features of transport infrastructure (road, rail, sea, air and public transport), vehicle fleet size (cars and commercial), and transport policies (e.g. market reform and subsidies);

(h) Industry and waste – e.g. industry structure, trends and policies, and waste management practices;

(i) Building stock and urban form – e.g. profile of residential buildings (type and occupancy), profile of commercial buildings, and urban density and structure;

(j) Agriculture – e.g. structure, trends and policies (e.g. subsidies), and waste management practices;

(k) Forestry – e.g. structure, trends and policies (e.g. subsidies);

(l) Other circumstances.]

12. Where statistics are provided, these [should] be accompanied by a definition of terms unless they are obvious. These may be included in footnotes or as an annex to the communication.

13. Parties requesting flexibility or consideration, in accordance with Article 4.6 and 4.10 of the Convention, [shall] state the type of special consideration they are seeking and provide an adequate explanation of their circumstances.

IV. GREENHOUSE GAS INVENTORY INFORMATION

14. Summary information from the national greenhouse gas inventory prepared according to part I of these guidelines [shall] be provided for the period from 1990 (or other base year) to the last but one year prior to the year of submission of the national communication (e.g. inventory

information up to the year 1999 [shall] be provided in the third national communication to be submitted by 30 November 2001). The information provided in the communication [should] be consistent with that provided in the annual inventory information submission of the year in which the communication is submitted.

15. For the purpose of the communication, complete inventory information need not be provided. However, at a minimum, Parties [shall] report the summary, including CO_2 equivalent and emissions trend tables given in the common reporting format contained in the above-mentioned guidelines. These tables may be provided as an annex to the communication rather than in the main text.

V. MITIGATION PLANS

A. Policies and measures

16. Article 12.2 requires Annex I Parties to communicate information on policies and measures adopted to implement commitments under Article 4.2(a) and (b). These need not have the limitation and reduction of greenhouse gas emissions as a primary objective.

17. This information [should] describe the overall policy context, including national targets for greenhouse gas mitigation, in addition to Convention commitments. Strategies for sustainable development or other relevant policy objectives may also be covered. Relevant inter-ministerial decision-making processes or bodies [should] be noted.

18. In reporting, Parties [shall][should] give priority to policies, or combinations of policies, which have the most significant impact in limiting or reducing greenhouse gas emissions and may also indicate those which are innovative and/or effectively replicable by other Parties. The national communication does not have to report every policy and measure which affects greenhouse gas emissions.

18 bis. [Parties [should] provide information on how they believe their policies and measures are modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention.]

[Revised proposal from the co-Chair reflecting discussions in the joint contact group. Paragraphs 19-21 and table 1

Parties [shall] organize the reporting of policies and measures by sectors, and subdivided by greenhouse gas (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6). Each sector [should] have its own textual description of the principal policies and measures concerned, plus the summary table as shown in table 1, identifying [the name of the policy or measure, the status of implementation, the type of instrument concerned, gas affected, implementing authority, and estimated impact on emissions.] Parties may include a separate text section and table describing cross-sectoral policies and measures.]

[If the co-Chair's proposal is accepted, the following three paragraphs and table 1 in its original form would not be needed.

19. Parties [shall] report on their policies and measures in the text of their national communication, and complete the summary table (table 1) for policies and measures described i the national communication.

20. Parties [shall] organize the reporting of policies and measures by sectors, using as far as possible the sectors shown in table 1. Parties may aggregate or further disaggregate sectors according to national circumstances, and [should] provide information on cross-sectoral policies and measures.

21. For each sector, reporting [should] be further subdivided by greenhouse gas (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6).]

22. In cases where a policy or measure has been maintained over time and is thoroughly described in the Party's previous national communication, reference [should] be made to this an only a brief description contained in the latest national communication, focusing on any alterations to the policy or effects achieved. When policies listed in previous national communications are no longer in place, Parties may explain why this is so.

23. Some information, such as the effect of policies and measures, may be presented in aggregate for several complementary measures in a particular sector or affecting a particular gas

24. Policies reported on [could] be those decided and /or implemented by governments at national and local level. Furthermore, policies reported [could] also include those adopted in the context of regional or international efforts.

25. The description of each policy and measure [shall] include information on each of the following subject headings listed below. The description [shall] be concise and [could] include information on the detail suggested after each subject heading.

(a) *The objective of the policy or measure*. The description of the objectives [should focus on the key purposes and benefits of the policies and measures. Objectives [should] be described in quantitative terms to the extent possible;

(b) *The greenhouse gas or gases affected*;

(c) *Type or types of policy or measure*. Use to the extent possible the following terms: economic, fiscal, voluntary, regulatory, information, education, research, other;

(d) *Status of implementation*. It [should] be noted whether the policy or measure is i the planning stage or is under legislative consideration, or whether a legislative decision (or decision by another relevant body) has been taken. For policies having been decided by the

relevant authority, the stage of implementation they are at [should] be noted. Information may include the funds already provided, future budget allocated and the planned time-frame for the implementation of the policy or measure;

26. The following information may [should] be included in the description of each policy and measure reported;

(a) *Greenhouse gas mitigation monitoring and results.* This [should] cover a description of the way in which progress with policies and measures to mitigate greenhouse gas emissions is monitored and evaluated over time. Institutional arrangements for monitoring of greenhouse gas mitigation policy may [should] also be reported in this context;

(b) *A quantitative estimate of the impacts of individual policies and measures or collections of policies and measures.* The estimate may be of historic impacts and/or of future impacts. This may be in terms of the underlying activity or emissions affected, compared to the likely level of activity or emissions for the relevant sector in the absence of such policies. This information [should] be presented as an estimate for a particular year such as 1995, 2000 and 2005, not for a period of years. Parties are also encouraged to provide a brief description of how such savings are estimated. This information may be provided for both implemented policies and measures and policies and measures under consideration, but the distinction between the two [should] be clear;

(c) *Information about the costs of policies and measures.* Such information [should] be accompanied by a brief definition of the term 'cost' in this context;

(d) *Information about non-GHG mitigation benefits of policies and measures.* Such benefits [could] include, for example, reduced emissions of other pollutants or health benefits;

(e) *How the policy or measure interacts with other policies and measures at the national level.* This may include a description of how policies complement each other in order to enhance overall greenhouse gas mitigation;

(f) *Level of government and private sector involvement.* This [should] cover whether a central or local government decision is required to instigate the policy, whether funds are provided from state or local budgets and who is the implementing authority. It [should] also cover whether the policy is targeted at the organization, firm or household level etc. and, where possible, note the scale of private sector involvement in terms of funding etc.

27. Parties may [shall] report policies and measures which encourage activities leading to greater levels of greenhouse gas emissions than otherwise, identified in accordance with Article 4.2(e) of the Convention. This might [could] include subsidies to fossil fuel production and consumption or livestock rearing. In addition, policies relating to security of fuel supply may be of relevance in this context.

Table 1. Summary of policies and measures by sector

Sector	Name of policy/ measure[a]	Principal gases affected	Type of instrument[b]	Objective ~~by gas~~ [c]	Status of implementation[d]	Implementing authority[e]	Estimate of mitigation impact[f] (for a particular year, not cumulative, CO2 equivalents)				
							1995	2000	2005	2010	2020
1. Cross-sectoral											
2. Energy industries											
3. Manufacturing industries											
4. Transport											
5. Residential											
6. Commerce, public sector											
7. Agriculture											
8. Land-use change and forestry											
9. Waste											

***Note**: Under the co-Chair's proposal for paragraphs 19-21, this version of the table would not be required.*

[a] Parties [should] use an asterisk (*) to indicate that a measure is included in the "with implemented measures" projection.
[b] To the extent possible the following terms [should] be used: economic, fiscal, voluntary, regulatory, information, education, research and other.
[c] See paragraph 25 (a).
[d] To the extent possible the following descriptive terms [should] be used: under consideration, decided (year), implemented (year), funding allocated (years, amount), funding planned (years, amount), expected end date (year).
[e] Central, state, county, municipality.
[f] This information [should] be included to the extent possible, and where appropriate, taking into account the appropriate level of aggregation.

[Proposal from the co-Chair for table 1.

Summary of policies and measures for sector[a]:

Name of policy/ measure[b]	Principal gases affected	Type of instrument[c]	Status of implementation[d]	Implementing entity or entities[e]	Estimate of mitigation impact[f] (for a particular year, not cumulative, in CO2 equivalents)				
					1995	2000	2005	2010	2020

[a] Separate tables [should] be completed for each sector. To the extent appropriate, the following sectors [should] be considered: energy industries, manufacturing industries, transport, residential, commerce/public sector, industrial processes, agriculture, land-use change and forestry, waste. A table [could] also be completed for any cross-sectoral policies and measures.

[b] Parties [should] use an asterisk (*) to indicate that a measure is included in the "with implemented measures" projection.

[c] To the extent possible the following terms [should] be used: economic, fiscal, voluntary, regulatory, information, education, research and other.

[d] To the extent possible the following descriptive terms [should] be used: under consideration, decided (year), implemented (year), funding allocated (years, amount), funding planned (years, amount), expected end date (year).

[e] For example, central government or federal authority, private sector, county, municipality.

[f] This information [should] be included to the extent possible, and where appropriate, taking into account the appropriate level of aggregation.]

B. Projections and assessment of effects of measures

28. The primary objective of the projections is to give an indication of future trends in emissions and removals, given current national circumstances, including implemented policies and measures. To this end a "with implemented measures" projection [shall] be presented. This projection [shall] be designed to encompass latest available information on all policies and measures implemented by the Party at the time of preparation of the national report.

29. Parties [may][shall] provide an additional ["with new measures"] calculation assessing the total effect of all new policies and measures implemented since the submission of their last national communication. [Parties may use either a "without measures" scenario or another approach.]

29 bis. [Parties [may] provide in addition, where possible, a calculation assessing the total effect of all policies and measures implemented since 1990. This information [should] be clearly separated from the elements referred to in paragraph 28 above. Parties may use either a "without measures" scenario or another approach.]

30. [Parties are encouraged to provide an estimate of the total effects of those policies and measures which are under consideration. This information [should] be clearly separated from the [mandatory] elements referred to in paragraphs 28 and 29 [and 29 bis] above. Parties may use either a "with additional measures" scenario or another approach.]

31. In view of the objective of the Convention and the intent to modify longer-term trends in emissions and removals, Parties [shall] include projections on a quantitative basis for the years 2005, 2010, 2015, and 2020. [Parties [shall] also include projections for the first commitment period].

32. The starting point of the projections [shall] be consistent with the inventory data in the national communication. Differences between the inventory and projections, such as ~~exclusion of some sectors~~ (USA) or statistical differences, [shall] be explained. If Parties carry out any adjustments to activity data or projected emissions for the starting point of their projections, for example, for climate variations or trade patterns in electricity, both adjusted and unadjusted data [shall] be reported with a clear link to the inventory data and explanation of the methods used. For the "with implemented measures" and the optional "with additional measures" scenarios, the starting point [shall] be the latest year for which inventory data are available in the national communication. ~~The starting point for the optional "without measures" scenario [should] be the last national communication and, where possible, 1990~~. (EU). (USA - proposes to delete only the words "and where possible, 1990")

[Proposal of Switzerland on paragraphs 28-30 and 33: The description of the requested scenarios in paragraphs 28-30 is confusing. It should be rearranged and systematized (e.g. by adding a table as suggested below) to make the scenario specification unambiguous. Adapt paragraph 33 accordingly.

Para	Scenario name	Description	Scenario starting point
28	"with implemented measures"	All implemented measures at time of projection	Latest available inventory year
29	"with new measures" (EU; USA: no name given)	New policies and measures implemented since the preceding national communication	Latest inventory available when submitting previous national communication?
29	"with all measures" (EU; USA: no name given)	All policies and measures implemented since 1990	1990?
29	"without measures" (USA)	?	?
30	"with additional measures"	Total effects of policies and measures under consideration	Latest available inventory year]

33. [Projections [shall] be made on a gas-by-gas basis for emissions and removals of the following greenhouse gases: CO_2, CH_4, N_2O, PFCs, HFCs and SF_6. Parties are encouraged to provide projections of the indirect greenhouse gases CO, NO_x and NMVOCs, as well as sulphur oxides. (Previous paragraph 31)] ~~Parties [shall] provide projections on a sectoral basis~~, [Projections [should] be further subdivided on a sectoral basis,] (EU) to the extent possible using the same sectoral categories as in their GHG inventory reporting. ~~Parties [shall] summarize the results of the projections by gas and, to the extent possible, by sector, using the emission trends table used for inventory reporting.~~ (CHE) In addition [to summarizing the results of the projections by gas and, to the extent possible, by sector] (CHE), projections [shall] be provided in an aggregated format, using GWP values agreed upon by the Conference of the Parties.

34. To ensure consistency with inventory reporting, projections of emissions based upon fuel sold to ships and aircraft engaged in international transport [shall] not be included in national totals but reported separately. ~~Similarly, projections of emissions from the land-use change and forestry sector [shall] not be included in projections of national totals but reported separately.~~ (USA - Discussion of the land-use change and forestry sector [should] be separate from the bunker issue. Projections from land-use change and forestry [should] be reported as a sector of the economy, like in previous national communications and in the inventory guidelines, and reported as part of the national totals. This language was not discussed at the workshop.)

35. When projecting greenhouse gas emissions and removals, and estimating the specific and total effect of policies and measures on emissions and removals, Parties may use any model(s) and/or approach(es), provided sufficient information is given to allow a third party to obtain a qualitative understanding of the model(s) and/or approach(es) used. [Parties are also encouraged

to publish separately a full methodological description of the model(s) used, for reasons of transparency.] (EU)

36. In the interests of transparency, for each model or approach used, Parties [shall]:

(a) Describe the type of model or approach used, its characteristics (for example, top-down model, bottom-up model, accounting model, expert judgement);

(b) Describe the original purpose for which the model was designed and, if applicable, how it has been modified for climate change purposes;

(c) Summarize the strengths and weaknesses of the model or approach used and provide an indication of its scientific and technical credibility;

(d) Explain how the model or approach used accounts for any overlap or synergies that may exist between different policies and measures;

(e) Provide references or Internet addresses for more detailed information on the model or approach.

37. To ensure transparency, national communications [shall] report the key assumptions and variables used to develop projection(s) of greenhouse gas emissions and removals and estimate(s) of the total effects of policies and measures on emissions and removals. Parties [shall] summarize historic and assumed values of key variables by completing table 2 below, identifying which assumptions were used for the different scenarios provided. (USA - this must be optional according to the structure of the model.), (EU - it should be made clear what are key variables and what are key assumptions.)

Table 2. Summary of key variables and assumptions in the projections analysis

	Historic[a]					Assumed				
	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
Variable 1 (e.g. world coal prices - real/nominal (US$/ton))										
Variable 2 (e.g. world oil prices (US$/bbl))										
...										

[a] Information [should] be provided for at least the period 1990 onwards.

38. An illustrative list of key variables and assumptions that may be required to project greenhouse gas emissions and removals or to estimate the specific effects of policies and measures and their costs may include the following: (EU - it should be made clear what are key variables and what are key assumptions), (USA - these will probably vary by model; some will be inputs to a model, the same may be calculated within another.)

(a) GDP level (national currency) and annual growth rate (consistent with economic forecasts of the Party);

(b) Assumptions on exchange rates between the domestic currency and the United States dollar;

(c) Population level (millions) and compound annual growth rate;

(d) Interest rate and public sector discount rate, where available;

(e) Annual rate of autonomous energy efficiency improvement in total and by sector;

(f) Total housing, including turnover (number of dwellings);

(g) Commercial floor space, including turnover (thousands of square kilometres);

(h) Vehicle-kilometres travelled by vehicle type (thousands);

(i) Policy context (description of significant measures that reduce emissions or enhance removals that have been incorporated in the projection, as well as how they were incorporated);

(j) Rate of penetration and absolute levels of use of new end-use technologies;

(k) World fuel prices;

(l) Relative costs of different electricity-generating plants;

(m) Head of livestock (thousands by species);

(n) Nitrogen fertilizer and manure use (tonnes of nitrogen).

39. Parties [shall] provide information on key outputs of the model(s) and/or approach(es) used, such as projected energy balances, for the period of the projection. The historic and curre activity data, and projected values for key outputs [shall] be summarized by completing table 3. (USA - this is optional according to the structure of the model.)

Table 3. Summary of activity data and other [key] (EU) outputs of the projections analysi

	Activity data[a]					Projection				
	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
~~Variable~~ Key output (EU) 1 (e.g. primary energy demand (PJ))										
~~Variable~~ Key output (EU) 2 (e.g. index of industrial production (1990=100))										
...										

[a] Information [should] be provided for at least the period 1990 onwards.

40. An illustrative list of ~~other~~ (EU) key outputs that may be produced when projecting greenhouse gas emissions and removals or estimating the specific effects of policies and measures may include the following: (USA - these will probably vary by model; some will be inputs to a model, the same may be calculated within another.)

(a) Primary energy production by fuel type (petajoules);

(b) Primary energy demand by fuel type, as well as electricity (petajoules);

(c) Energy demand by sector (petajoules);

(d) Final energy consumption by end-use (petajoules);

(e) Energy imports/exports (petajoules);

(f) Primary energy per unit of production in the industrial and commercial sectors;

(g) Energy consumption per square metre in the residential and commercial sectors;

(h) Primary energy for transport (per tonne-km or passenger-km);

(i) Electricity and heat produced per unit of fuel used in thermal power stations;

(j) Rice cultivation (area cultivated in hectares);

(k) Forest area cleared (thousands of hectares);

(l) Landfill waste disposal (tonnes);

(m) Waste-water biochemical oxygen demand (kg).

41. Parties ~~[shall]~~ [should] (USA) report the main differences in the assumptions, methods employed, and results between projections in the current national communication and those in earlier national communications.

42. The level of uncertainty associated with the projections and underlying assumptions [shall] be discussed qualitatively and, where possible, quantitatively. In addition, Parties are encouraged to provide the results of sensitivity analyses and/or a range of scenarios, to illustrate the sensitivity of the future emissions trends to variations in key assumptions.

43. Parties are encouraged to have their projections peer-reviewed by independent ~~national~~ (EU) experts.

44. Parties are encouraged to share with others their experience with the preparation of projections and to make all relevant information available to other Parties.

VI. VULNERABILITY ASSESSMENT, CLIMATE CHANGE IMPACTS AND ADAPTATION MEASURES

45. A communication [shall] review briefly the expected impacts of climate change for the Party concerned and outline the actions taken to implement Article 4.1(b) and (e) with regard to adaptation. Parties are encouraged to use the IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations. Parties [could] refer, *inter alia*, to integrated plans for coastal zone management, water resources and agriculture. Parties are also encouraged to report on specific results of scientific research in the field of vulnerability assessment and adaptation.

VII. FINANCIAL RESOURCES AND TRANSFER OF TECHNOLOGY

46. In accordance with Article 12.3, Annex II Parties [shall] provide detailed information on the activities undertaken to give effect to their commitments under Article 4.3, 4.4, and 4.5, as follows.

47. Parties [shall] indicate what "new and additional" financial resources have been provided to meet the agreed full costs incurred by developing country Parties, in complying with their obligations under Article 12.1. Parties [shall] clarify how they have determined such resources as being "new and additional" in their national communications.

48. Parties [shall] provide, [where feasible,] (EU) information on the provision of financial resources to meet the agreed full incremental costs incurred by developing countries in their implementation of measures covered under Article 4.1 of the Convention [and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article.] (USA) When communicating this information Parties [shall] complete tables 4 and 5 below.

(EU - table 4: Insert "and programmes" after "Multilateral institutions" in the first column and add the following footnote: "Parties may refer either to their overall contributions to all multilateral institutions and programmes or refer specifically to the multilateral institutions and programmes listed below."; in footnote 2, insert "also" after "Parties"; insert a column for 1997.)

(EU - table 5: Insert the following text as footnotes to "Mitigation" and to "Adaptation" in column-headings: "Parties may use other sectoral categories as appropriate"; insert a column headed "Other" under "Mitigation" to take account of cross-sectoral projects. The differentiation of the financial contributions on adaptation seems not to be suitable. Columns 9 and 10 should be merged with the new title "Other". If more detailed information is needed on adaptation projects, it can be extracted from the project descriptions; a table should also be provided for 1997.)

(CHE - Precision should be added in the table as to what is meant by "adaptation"; this could be done by adding a footnote with a definition or an indicative list of the range of intended activities, e.g., on the basis of GEF funded activities.)

49. ~~Parties [shall] provide detailed information on the assistance provided for the purpose of assisting developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects, in textual format and with reference to table 5 below~~. [Parties [should] provide information on assistance to the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects.] (USA)

50. ~~Parties [shall], when reporting activities related to the promotion, facilitation and financing of the transfer of, or access to, environmentally sound technologies, clearly distinguish~~

~~between activities undertaken by the public sector and by the private sector.~~ (USA) As the ability of Parties to collect information on private sector activities is limited, Parties may indicate, where feasible, in what way activities by the private sector help meet the commitments of Parties under Article 4.3, 4.4 and 4.5 of the Convention.

51. Parties [shall] report on some significant success stories [or failures] (CHE) related to technology transfer, using table 6 below. Parties [shall] also report their activities for financing access by developing countries to "hard" or "soft" environmentally sound technologies.[1]

52. ~~Parties are encouraged to report, in textual format, information on practicable steps taken by governments to promote, facilitate and finance transfer of technology, and to support development and enhancement of endogenous capacities and technologies of developing countries.~~ [Parties are encouraged to report, in textual information, on practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention.] (USA)

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[1] The term "transfer of technology", as used here, encompasses practices and processes such as "soft" technologies, for example, capacity-building, information networks, training and research, as well as "hard" technologies, for example, equipment to control, reduce or prevent anthropogenic emissions of greenhouse gases in the energy, transport, forestry, agriculture, and industry sectors, to enhance removals by sinks, and to facilitate adaptation. [The secretariat was requested to elaborate the existing definition of "hard and soft" technology for discussion at the tenth sessions of the subsidiary bodies.]

Table 4. Financial contributions to the Global Environment Facility (GEF) and other multilateral institutions and programmes[2]

	Contributions[3] (millions of US dollars)		
Global Environment Facility			
	1998	1999	2000*
Multilateral institutions 1. World Bank 2. International Finance Corporation 3. African Development Bank 4. Asian Development Bank 5. European Bank for Reconstruction and Development 6. Inter-American Development Bank 7. United Nations Development Programme - specific programmes 8. United Nations Environment Programme - specific programmes 9. UNFCCC - Supplementary Fund 10. Other			
Multilateral scientific, technology and training programmes 1. 2. 3. 4. 5.			

* If available

[2] In filling out this table, Parties may wish to refer to contributions related to the implementation of the Convention.

[3] Parties may indicate their overall contribution to the GEF and/or other multilateral institutions over a multi-year period.

Table 5. Bilateral/regional financial contributions related to the implementation of the Convention, 1998[4] (millions of US dollars)

	Mitigation						Adaptation		
Recipient country/ region	Energy	Transport	Forest	Agriculture	Waste management	Industry	Capacity-building	Coastal zone management	Other vulnerability assessments
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11. All other									

Similar tables [shall] be completed for 1999 and, if the information is available, for 2000.

[4] Parties may also wish to indicate separately their contribution to developing country Parties to enable the latter to comply with their obligations under Article 12.1.

Table 6. Description of selected projects or programmes that promoted [intended][were aimed at] (CHE) practicable steps to facilitate and/or finance the transfer of, or access to, environmentally sound technologies

Project / programme title:			
Purpose:			
Recipient country	Sector	Total funding	Years in operation
Description:			
Indicate factors which led to project's success [or failure] (CHE):			
Technology transferred:			
Impact on greenhouse gas emissions/sinks (optional):			

VIII. RESEARCH AND SYSTEMATIC OBSERVATION

53. Pursuant to Articles 4.1(g), 5 and 12.1(b), Annex I Parties [shall] communicate information on their actions relating to research and systematic observation. ~~This [shall] include.~~ [With respect to research, Parties [shall] provide,] (USA) *inter alia*, information on:

(a) Research on the impacts of climate change;

(b) Modelling and prediction, including general circulation models;

(c) Climate process and climate system studies;

(d) Socio-economic analysis, including analysis of both the impacts of climate change and response options; ~~and~~ (USA)

(e) Technology research and development; [and] (USA)

(f) [For items (a) - (e) above, identify the opportunities for and barriers to free and open international exchange of data and information.] (USA)

54. (Previously para. 57 - EU and USA) With respect to systematic observation and related data and monitoring systems, Parties [shall] provide information on the current status of national plans and support in the following areas:

(a) Atmospheric observing systems, including those measuring atmospheric constituents;

(b) Ocean observing systems;

(c) Terrestrial observing systems, including those dealing with land-surface properties, ice masses and freshwater resources; ~~and~~ (USA)

(d) Support for developing countries to establish and maintain observing systems and related data and monitoring systems; [and] (USA)

(e) [For items (a) - (c) above, identify the opportunities for and barriers to free and open international exchange of data and information.] (USA)

55. (Previously para. 58 - EU and USA) In preparing their communications on systematic observation and related data and monitoring systems, Parties may be guided by the requirements and best practices in documentation prepared by the Global Climate Observing System [, in consultation with SBSTA and the IPCC.] (USA)

56. The communications [~~could~~] [should] (EU) address both domestic programmes and international programmes (for example, the World Climate Programme (WCP), the International

Geosphere-Biosphere Programme (IGBP), the Global Climate Observing System (GCOS)) the IPCC. They [shall] also reflect actions taken to support related capacity-building in developing countries.

57. The communications [shall] be limited to reporting on actions undertaken [and th opportunities for and barriers to international exchange of data and information,] (USA) rat than the results of such efforts. For example, the results of research studies or model runs [data analysis] (EU) [shall] not be included in this section. (USA - proposes to delete second sentence of paragraph.)

IX. EDUCATION, TRAINING AND PUBLIC AWARENESS

58. In accordance with Articles 4.1(i), 6 and 12.1(b), Annex I Parties [shall] commun information on their actions relating to education, training and public awareness. In this sec Parties [shall] report, *inter alia*, on public information and education materials, resource or information centres, training programmes, and participation in international activities. Part are encouraged to report the extent of public participation in the preparation or domestic rev of the national communication.

X. SYSTEMATIC UPDATING OF THE GUIDELINES

59. Relevant future decisions, once taken by the Conference of the Parties, regarding the reporting of information under the Convention [should] be applied *mutatis mutandis* to thes UNFCCC reporting guidelines on non-inventory issues, which [shall] be updated according the COP.

Annex

STRUCTURE OF THE NATIONAL COMMUNICATION

1. The national communication [shall] be structured according to the outline given below. The outline is based on the [mandatory] elements of the guidelines. Optional elements and any other information Parties wish to provide [should] be included within this framework as appropriate.

1. EXECUTIVE SUMMARY

Summary of all [mandatory] information and data (no more than 15 pages)

2. NATIONAL CIRCUMSTANCES

2.1 Population profile
2.2 Geographic profile
2.3 Climatic profile
2.4 Government structure
2.5 Economic profile
2.6 Energy profile
2.7 Transport
2.8 Housing stock
2.9 Monitoring of greenhouse gas mitigation
2.10 Other circumstances

3. GREENHOUSE GAS INVENTORY INFORMATION

Summary of greenhouse gas inventory results. The required summary and trend tables of the common reporting format may be included in an annex rather than in the main text of this chapter.

4. MITIGATION PLANS

4.1 Policies and measures

4.1.1 Descriptive summary of policies and measures

This section [should] also contain table 1 describing policies and measures that have been implemented since 1990, that are significant, innovative and/or potentially replicable.

4.1.2 Description of each policy and measure

This section [should] contain a detailed description of each significant, innovative or potentially replicable policy and measure that the Party has implemented, including:

(a) Objective(s): gas(es) and/or sector(s) targeted;
(b) Why it is considered significant, innovative, or potentially replicable;
(c) Type of policy instrument(s) used;
(d) Interaction with other policies and measures;
(e) Status of implementation or commitment;
(f) How the policy and measure is functioning;
(g) Indicators of progress.

4.1.3 Policies and practices that lead to greater levels of emissions

4.2 Projections

4.2.1 Projection results

"With implemented measures" gas-by-gas projections of emissions and removal of the following greenhouse gases: CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 for t years 2000, 2005, 2010, 2015, [2020]:

(a) Summary of projections for all gases, sectors, and scenarios including aggregate projections using GWPs;

(b) Gas-by-gas projections;

(c) Sectoral projections;

(d) Projections of bunker fuels;

(e) Projections of net emissions from land-use change and forestry;

(f) Explanation of differences between projection and inventory (*if applicable*). *[Should] include both adjusted and unadjusted data with a clear link to the inventory data and explanation of the methods used.*

4.2.2 Estimate of total effect of policies and measures

Estimate of the total gas-by-gas effect of policies and measures for emissions a removals of the following greenhouse gases: CO_2, CH_4, N_2O, PFCs, HFCs and SF_6. This information, if presented as a "without measures" scenario, [could] included in section 4.2.1 (projection results).

5. VULNERABILITY ASSESSMENT, CLIMATE CHANGE IMPACTS AND ADAPTATION MEASURES

5.1 Expected impacts of climate change

5.2 Adaptation actions taken

6. FINANCIAL RESOURCES AND TRANSFER OF TECHNOLOGY

6.1 Provision of "new and additional" resources

Textual information on how "new and additional" was determined

6.2 Provision of financial resources

Textual information on the provision of financial resources

6.3 Assistance to developing country Parties that are particularly vulnerable to climate change

Textual description of assistance to developing country Parties that are particularly vulnerable to climate change

6.4 Activities related to transfer of technology

Textual description of activities related to transfer of technology

6.5 Tables

Table 4, table 5, table 6

7. RESEARCH AND SYSTEMATIC OBSERVATION

7.1 Actions related to research and systematic observation

7.1.1 Research on the impacts of climate change
7.1.2 Modelling and prediction, including general circulation models
7.1.3 Climate process and climate system studies
7.1.4 Socio-economic analysis, including analysis of both the impacts of climate change and response options
7.1.5 Technology research and development

4.2.3 Method reports

One method report [should] be provided for each method or approach used.

(a) Description of the type of model or approach used

(i) Characteristics
Characteristics of the model (for example, top-down model, bottom-up model, accounting model, expert judgement);

(ii) Original purpose
The original purpose of the model and, if applicable, how modified for climate change purposes;

(iii) Strengths and weaknesses
Strengths and weaknesses, indication of scientific and technical credibility;

(iv) Overlap or synergies
How it accounts for overlap or synergies between different policies and measures;

(v) References
References or Internet addresses for more detailed information;

(b) Assumptions

Table 2 summary of historic and assumed values of key variables used in this method/approach;

(c) Activity data and key outputs

Table 3 summary of historic and current activity data, and projected values for key outputs;

(d) Uncertainty

Qualitative and, where possible, quantitative discussion of uncertainty.

4.2.4 Differences compared to earlier national communications

Differences in the assumptions, methods employed, and results compared to earlier national communications.

7.2 National plans and support related to systematic observation

7.2.1 Atmospheric observing systems
7.2.2 Ocean observing systems
7.2.3 Terrestrial observing systems
7.2.4 Support for developing countries

8. EDUCATION, TRAINING AND PUBLIC AWARENESS

8.1 Public information and education materials
8.2 Resource or information centres
8.3 Training programmes
8.4 Participation in international activities